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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,105	12/10/2003	Shigeo Nakamura	16869G-099900US	9184

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EXAMINER
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CAO, ALLEN T

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/733,105

Applicant(s)

NAKAMURA ET AL.

Examiner

Allen T Cao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/28/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al (US. 6,731,472 B2) in view of JP10092126 and Inaba (US. 5,844,753).

Okamoto et al discloses a magnetic disk device comprising a head support mechanism which has a flexure 31 supporting a head slider 32; a load beam 24 supporting the flexure 31; a hinge 55 supporting the load beam and inherently given a load to the head slider; and a mount (inherently shows in column 6, lines 1-5) supporting the hinge; wherein a flying lead 81 and a wiring pattern (column 3, lines 39-50) are substantially provided at one end of the head support mechanism, all as set forth in claims 1-2 and 4-5.

Regarding claims 4 and 5, even though Okamoto et al does not explicitly disclose a carriage rotatably mounted on a pivot and provided with a coil at one end of the carriage and a carriage arm, at the other end, which is mounted with the head support mechanism by way of the mount; a magnetic circuit for applying a magnetic field to the coil; and a magnetic disk mounted on a rotary shaft.

However, the above elements are inherently included in a magnetic disk drive device is well known in the art; for example, JP10092126 discloses a magnetic disk drive having a carriage (34, 38) rotatably mounted on a pivot (figure 2) and provided with a coil 44 at one end of the carriage (38) and a carriage arm 34, at the other end,

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which is mounted with the head support mechanism by way of the mount; a magnetic circuit 16 for applying a magnetic field to the coil 44 (see [0036]); and a magnetic disk 12 mounted on a rotary shaft.

Okamoto et al, however, does not disclose that the flying lead is arranged to be parallel to a rotary shaft of the carriage as recited in claims 1-2 and 4-5.

JP10092126 discloses a lead (74, 76) and a wiring pattern 46 are provided at one end of the head support mechanism; and wherein the lead is substantially arranged to be parallel to a rotary shaft of the carriage (see figures 2-3, 6 and 8) as recited in claims 1-2 and 4-5.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to relocate the flying lead of Okamoto et al to be parallel to a rotary shaft of the carriage as set forth, supra as taught by JP10092126.

The rationale is as follows: One of ordinary skill in the art would have been motivated to relocate the flying lead of Okamoto et al to be parallel to a rotary shaft of the carriage as set forth, supra as taught by JP10092126 through an obvious relocation of parts in order to secure the flying lead to the E-block, thus reduce the male function might occurred.

Okamoto et al as modified by JP1009216 do not disclose "wherein one side of each resin layer portions covering both sides of the flying lead is supported by a metal frame electrically insulated from said flying lead and said wiring pattern" as set forth in claims 1-2 and 4-5.

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Inaba discloses a disk drive having a head support mechanism having a magnetic junction board 8 including bumps 6 (made by electrical conductive material; lead is also an electrical conductive material); a wiring pattern 3; a metal frame 2; an insulating film 1; and an resin insulating film/layer 4; wherein the insulating films 4 and 1 together are covering both sides of the bumps 6 and wiring pattern 3 in order to electrically insulated the metal frame 2 from the bumps 6 and the wiring pattern 3.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the head support mechanism including the flying lead of Okamoto et al as modified by JP10092126 through the teaching of Inabe to have "one side of each resin layer portions covering both sides of the flying lead is supported by a metal frame electrically insulated from said flying lead and said wiring pattern".

The rationale is as follows: One of ordinary skill in the art would have been motivated to modify the head support mechanism including the flying lead of Okamoto et al as modified by JP10092126 through the teaching of Inaba to have "one side of each resin layer portions covering both sides of the flying lead is supported by a metal frame electrically insulated from said flying lead and said wiring pattern" to improve the harness structure characteristics (metal frame 2) and to improve the insulating characteristics between parts (insulating layers), thus prevent short circuit might occurred.

Regarding claim 3, Inaba also discloses that the metal frame 2 is made of a stainless frame/steel.

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen T Cao whose telephone number is (571) 272-7569. The examiner can normally be reached on Mon - Thurs (7:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen Cao  
Primary Examiner

AC  
April 12, 2005